

Public Education Critical to Septic Tank Management

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Would you buy a car and then never change the oil during the entire time you owned it? Of course not. Yet most of the 25 million owners of septic tanks in the United States treat their septic tanks this way – they rarely, if ever, check to see how their systems are operating.

Most homeowners wait until something goes wrong with their septic system before taking any action. This is the same as driving your car until it runs out of oil and then having to replace the engine. If everyone in a community adopted this approach concerning their cars, it would naturally lead to a need for public transportation systems. The same thing happens with septic systems – when many individual septic systems fail, homeowners demand costly conventional sewers.

Although cars come with owner's manuals, septic tanks usually don't. In fact, most people inherit a septic system rather than purchase it directly. To make matters even worse, septic systems are out of sight and difficult to find even if one wanted to check the system.

The need for septic tank management goes beyond the traditional health department responsibilities for site evaluation and supervision of design and construction. Public education and maintenance programs are now recognized as being essential to the long-term operation of septic tank systems. Fortunately, those who recognize the importance of septic tank management are making an effort to educate the public. The following takes a look at what some management agencies, professional associations, private businesses, county health departments, and universities are doing to educate the public about the importance of maintaining septic systems. Other mechanisms that could likely be used in the future will also be considered.

Management Agencies

When management agencies are responsible for the cost of septic tank repairs, public education programs are likely to be much more comprehensive. The Anne Arundel County,

Maryland, Department of Utilities manages on-site wastewater treatment for residents of its Mayo Peninsula. Because the utility must repair failing systems, it actively promotes water conservation since this reduces the amount of wastewater that must be absorbed by the soil and the biological load on the absorption system. To promote water conservation, the utility distributes a special water conservation kit for homeowners. In addition to a septic tank user manual and a water conservation handbook, the kit includes a *free* low-flow shower head, water dam for the toilet, and two faucet aerators.

The Stinson Beach, California, Water Utility requires operating permits for all types of the on-site wastewater systems used in its community. All homeowners must have their systems inspected before their operating permits can be renewed. Because the water utility manages the on-site systems, when homeowners request water service they are automatically provided with information on the operation and maintenance requirements for a variety of on-site systems.

Professional Associations

Some professional have designed their own publications and programs to educate the public. The Florida Septic Tank Association, a professional association for septage haulers and contractors, annually prints and distributes 10,000 to 15,000 copies of a booklet called *Your Magic Box*. The association is also starting a speaker's bureau and publicity effort aimed at increasing media coverage and public awareness of septic tank systems.

Similarly, the Rural Community Assistance Program (RCAP) in Winchendon, Massachusetts, a non-profit corporation dedicated to helping small, low-income communities develop facilities for water, wastewater, and solid waste, offers a slide show to educate public officials on the basics of septic tank design and operation. By providing this type of information, the RCAP helps rural communities maintain their septic systems, which eliminates or reduces the need to install costly central collection and treatment systems.

Private Business

Tom Ferrero, a private hauler in Pennsylvania maintains a computerized "tickler file" that he uses to prepare customized letters for homeowners notifying them that it has been "x" years since they have pumped their septic tank. With this reminder he send several educational booklets including a septic tank maintenance handbook from the Bucks County (PA) Management Program, a fact sheet from the Penn State Cooperative Extension Service, and a

brochure from the Montgomery County (PA) Planning Commission. Ferraro's service not only educates homeowners, but also generates business for his company. He also provides private consultation/inspections on the condition of septic tank systems to prospective home buyers and realtors.

County Health Departments

The extensive use of shallow systems (commonly known as low pressure pipe systems), which utilize a pressure distribution network, in North Carolina provides an incentive for educating homeowners on the care of these more complex systems. While these systems require operating permits and regular inspections, education is the most cost-effective measure to ensure proper maintenance. Brochures, slide shows, newspaper articles, educational displays, and public presentations are some of the many devices that have been used by county health departments in North Carolina to educate the public. Several health departments also offer one-day educational workshops for the real estate and construction communities.

University Extension Services

Land grant universities, which have special service and education missions, have produced through their cooperative extension services many publications and brochures on the care and operation of septic tank systems.

Karen Mancl from Ohio State University has prepared a number of these publications. One two-page fact sheet addresses septic tank maintenance. Included with this document is a guide for homeowners to estimate pumping frequency based on the number of persons in the family and the size of the septic tank. Mancl and Roger Machmeier, University of Minnesota, recognized the need for collecting all the extension publications on septic tank maintenance. With assistance from the National Small Flows Clearinghouse, they prepared *On-site Wastewater Treatment*, a notebook of educational materials. In addition to information on septic tank maintenance, this notebook also provides publications on mound systems, site suitability, system failure, management of septic systems, and other topics. Although this collection of documents was sold out in less than a year, a list of its publications and their sources is available from the Clearinghouse.

Another especially interesting publication is by Echart Dersch at Michigan State University. This one takes the form of a file folder titled *Septic Tank Maintenance*. This unique form

explains the basic system components and maintenance requirements of septic systems and provides space to sketch the system and to record maintenance activities. Because it functions as a file folder, it can be used as such to store additional information concerning septic systems such as user manuals and receipts for services rendered.

Possibilities for the Future

The examples described above are just a few of the things that can be done to educate homeowners. For example, Dr. Willem van Eck of West Virginia University Cooperative Extension Service suggests that deeds for property should include the location of septic tank systems. By including this information, homeowners would at least be given the opportunity to review the location of the system when closing on the new property.

In many areas, before a building permit is issued the property owner must secure an approved septic tank permit from the local health department. This same concept could be extended to transferring a utility service such as water or power to a new tenant of a property. Prior to providing the service (i.e. turning on the water), a certificate from the health department or registered professional inspector on the condition of the septic system could be required. While this could not guarantee that the system is hydraulically sound (because of a lack of occupancy in many cases), it could ensure that the homeowner is informed of the condition of the septic tank and the date when it was last pumped. This same rationale is the norm when it comes to buying a used car. Just as it takes more than turning on a car's engine and saying "it seems to run OK," a homeowner needs to know that the septic system has been pumped and thoroughly checked prior to purchasing the property. And like buying a car, the homeowner should also receive operating instructions for the septic system, such as how to conserve water, the importance of repairing leaky plumbing, and what not to put into the system.

Given the scarcity of public dollars to replace failing systems, management agencies and health departments may no longer be able to ignore public education. Although the most cost effective approach is to keep septic tank maintenance the responsibility of the homeowner, to preserve this approach more aggressive public education programs will be required. In the future we should see more and more creative programs designed to educate homeowners. Hopefully, homeowners will come to demand these services, but this will only happen when they understand that the popular slogan for a car maintenance advertisement, "pay me now or pay me later," also applies to septic tanks.